

WHAT IS CLAIMED IS:

1. A non-aqueous electrolyte cell comprising:

a positive electrode containing a lithium-transition metal compound oxide as a positive electrode active material;

a negative electrode containing a carbon compound or metal lithium as a negative electrode active material; and

a non-aqueous electrolyte interposed between said positive and negative electrodes; wherein

said lithium-transition metal compound oxide is represented by the general formula Li_xMnO_2 or $\text{Li}_x\text{Mn}_{1-y}\text{Al}_y\text{O}_2$ where $0.94 \leq x \leq 0.96$ and $0.06 \leq y \leq 0.25$.

2. The non-aqueous electrolyte cell according to claim 1 wherein the lithium-transition metal compound oxide, represented by the general formula Li_xMnO_2 or $\text{Li}_x\text{Mn}_{1-y}\text{Al}_y\text{O}_2$, has a crystalline structure as represented by the spatial group C2/m .

3. The non-aqueous electrolyte cell according to claim 1 wherein said electrolyte is selected from the group consisting of LiClO_4 , LiAsF_6 , LiPF_6 , LiBF_4 , $\text{LiB}(\text{C}_6\text{H}_5)_4$, $\text{CH}_3\text{SO}_3\text{Li}$, $\text{CF}_3\text{SO}_3\text{Li}$, LiCl and LiBr .

4. The non-aqueous electrolyte cell according to claim 1 wherein said electrolyte is dissolved in a non-aqueous solvent and exists as a non-aqueous electrolyte.

5. The non-aqueous electrolyte cell according to claim 4 wherein said electrolyte is selected from the group consisting of propylene carbonate, ethylene carbonate, dimethyl carbonate, diethyl carbonate, 1,2-dimethoxyethane, 1,2-diethoxyethane, γ -

butyrolactone, tetrahydrofuran, 2-methyl tetrahydrofuran, 1, 3-dioxolane, 4-methyl-1, 3-dioxolan, 4-methyl-1, 3-dioxolan, diethyl ether, sulforane, methyl sulforane, acetonitrile, propionitrile, anisole, acetic acid ester, lactic acid ester and propionic acid ester.